

EXHIBIT 1

Defendants propose the following claim terms for construction for the Asserted Claims of the Asserted Patents. Defendants also incorporate by reference all claim terms / limitations identified in their invalidity contentions as being indefinite under indefinite under 35 U.S.C. § 112 ¶ 2 (*see* Invalidity Contentions, Section IX.B as served on January 6, 2021), and as lacking enablement and written support under indefinite under 35 U.S.C. § 112 ¶ 1 (*see* Invalidity Contentions, Section IX.A as served on January 6, 2021).

Defendants expressly reserve the right to supplement, amend, or otherwise modify their list of terms in any way permitted by the Federal Rules of Civil Procedure and this Court's Local Rules and Patent Rules, or in response to Plaintiff WSOU's identification of terms and elements. Defendants provide this disclosure based upon information reasonably known and available to Defendants at this time. To the extent that WSOU shows good cause and is permitted to amend or supplement its infringement contentions in the future, or otherwise changes or further clarifies the positions it has taken in this case (including to add or to change in any way the claim(s) currently asserted, or to modify its apparent interpretation of the scope of the claim(s)), Defendants reserve the right to respond.

Defendants' Identification of Terms for Claim Construction Pursuant to the Court's First Amended Scheduling Order

Means-Plus-Function Terms	
Asserted Claim	Claim Term
'505 Claim 14	"a data message receiver to receive data from a first terminal device"
'505 Claim 14	"a formatter to format the received data into at least one SMS (Short Message Service) message"
'505 Claim 14	"a transmitter to transmit the at least one SMS message to the second, remotely located, terminal device through a cellular network connection"
'534 Claim 1	"transmitting user data between a transmitter and a receiver in a multi-carrier radio communication system having a plurality of orthogonal frequency sub-carriers,"
'534 Claim 1	"determining quality levels for said sub-carriers,"
'534 Claim 1	"sending said quality levels from said receiver to said transmitter,"
'534 Claim 1	"selecting, based on said quality levels, a set of sub-carriers on which said user data is to be transmitted between said transmitter and said receiver,"
'534 Claim 1	"sending an indication related to a threshold, said indication and said quality levels enabling said receiver to deduce said set of sub-carriers on which said user data is to be transmitted,"
'534 Claim 1	"selecting said set of sub-carriers on which said user data is to be transmitted as a function of said indication and of said quality levels."
'534 Claim 6	"An apparatus to facilitate communication of user data in a multi-carrier radio communication system having a plurality of orthogonal frequency sub-carriers, the apparatus comprising"

'534 Claim 6	"means for selecting a set of sub-carriers from the plurality of sub-carriers on which user data is to be communicated from a transmitter to a receiver, said selecting based at least in part on at least one of sub-carrier quality levels and a threshold indication associated with sub-carriers, said quality levels communicated from the receiver to the transmitter and said threshold indication communicated from the transmitter to the receiver;"
'534 Claim 6	"means for selecting said set of sub-carriers on which said user data is to be received from said transmitter"
'534 Claim 6	"means for determining quality levels for sub-carriers"
'534 Claim 6	"means for sending said quality levels to said transmitter"
'534 Claim 6	"means for receiving and storing said threshold indication from said transmitter, said threshold indication and said quality levels enabling said receiver to deduce said set of sub-carriers on which said user data is to be received"
'534 Claim 11	"means for reading the threshold indication on at least one sub-carrier of the selected set of sub-carriers after detecting a specific identifier associated with the receiver on said at least one sub-carrier"
'534 Claim 13	"means for selecting said set of sub-carriers on which said user data is to be transmitted to said receiver"
'534 Claim 13	"means for receiving said quality levels from said receiver"
'534 Claim 13	"means for sending said threshold indication to said receiver, said threshold indication and said quality levels enabling said receiver to deduce the set of sub-carriers on which said user data is to be transmitted"
'232 Claim 14	"instructions for receiving, by a controller of the traffic flow control system, a backpressure signal, wherein the back pressure signal indicates a period of congestion"

'232 Claim 14	"instructions for determining, by the controller of the traffic flow control system, at least one weighting factor to be applied to the flow of data packets based on the received backpressure signal"
'232 Claim 14	"instructions for adjusting an amount of rate limiting applied to at least a portion of the flow of data packets based on both the determined at least one weighting factor and a content of the backpressure"
'232 Claim 14	"instructions for execution by a traffic flow control system for performing flow control on a flow of data packets for transmission over a link"
'232 Claim 1	"A method performed by a traffic flow control system for performing flow control on a flow of data packets for transmission over a link, the method comprising"
'036 Claims 1, 12	"method for controlling data flow in a network"
'036 Claims 23, 24	"apparatus configured for controlling data flow in a network"
'036 Claims 1, 12, 23, 24	"congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition"
'240 Claims 1, 6	"connectivity verification server to perform unattended connectivity verification jobs"
'839 Claim 1	"method, in an access device of the communication network, for managing route information"
'839 Claim 6	"route management apparatus, in an access device of the communication network, for managing route information"
'839 Claim 6	"a receiver configured to receive an access response message from a server"
'839 Claim 6	"a first obtainer configured to obtain route-related information and a predefined using time from said access response message, said predefined using time indicating the using time of said route"

'839 Claim 6	"a route maintainer configured to update a route table based on said route-related information and said predefined using time"
'839 Claim 8	"a first judger configured to judge whether the route table item corresponding to said route-related information exists in said route table"
'839 Claim 8	"a second judger configured to judge whether a remaining time of said route table item is shorter than said predefined using time if the first judger judges that the route table item corresponding to said route-related information exists in said route table"
'839 Claim 8	"an updater configured to update the remaining time of said route table item to said predefined using time if the first judger judges that the route table item corresponding to said route-related information exists in said route table and the second judger judges that the remaining time of said route table item is shorter than said predefined using time"
'839 Claim 8	"a creator configured to create the route table item corresponding to said route-related information if the first judger judges that no route table item corresponding to said route-related information exists in said route table"
'839 Claim 9	"a second obtainer configured to obtain correlated information of said route table item and a virtual local area network"
'905 Claim 6	"receiving, from a first wireless communication apparatus in a second communication apparatus, a reservation request message instructing the second wireless communication apparatus to reserve at least one additional frequency band for the first wireless communication apparatus during a transmission period of the first wireless communication apparatus, the at least one additional frequency band being requested for use by the first wireless communication apparatus while transmitting data on a first frequency band, wherein the transmission period is a transmission opportunity for a wireless local area network;"
'905 Claim 6	"monitoring for availability of the at least one additional frequency band during the transmission period of the first wireless communication apparatus"

'905 Claim 6	“in response to detection of availability of the at least one additional frequency band during the transmission period of the first wireless communication apparatus, causing transmission of a reservation response message to the first wireless communication apparatus, wherein the reservation response message indicates that said at least one additional frequency band is available for the first wireless communication apparatus to use in transmission during the transmission period of the first wireless communication apparatus to enable the first wireless communication apparatus to increase the bandwidth of transmission to comprise the first frequency band and the at least one additional frequency band so that the first wireless communication apparatus transmits data during the transmission period on a transmission band having increased bandwidth greater than that of the first frequency band.”
'071 Claim 1	“a processor for providing image data signalling to a projector, the image data signalling representing an image to be projected by the projector”
'071 Claim 14	“computer program code configured to, when executed by one or more processors, cause an apparatus to perform at least: receiving movement signalling associated with movement of a projector; and providing image data signalling to the projector based on received movement signalling, wherein the movement signalling provides an indication of one or more movement criterion of the projector, the movement criterion representing one or more of displacement and movement speed of the projector, and wherein the processor is configured to discriminate a movement criterion and to provide associated image data signalling to project associated image data.”

Other Terms	
Asserted Claim	Claim Term
'505 Claim 1	“data synchronization”
'505 Claims 1, 14, 23	“data to be synchronized”
'505 Claims 1, 14, 23	“remotely located”

'505 Claims 1, 14, 23	"[first/second/intermediate] terminal device"
'505 Claim 1, 23	"short-range connection"
'505 Claims 1, 23	"formatting"
'505 Claim 14	"formatter to format"
'505 Claim 14	"transmitter to transmit"
'505 Claim 14	"data message receiver"
'505 Claims 1, 14, 23	"SMS (Short Message Service)"
'505 Claims 1, 14, 23	"remotely located terminal device"
'505 Claims 3, 14, 23	"mobile terminal device"
'505 Claims 1, 14, 23	"cellular network connection"
'505 Claims 1, 23	"short-range connection"
'505 Claims 11, 14, 23	"short range communication link"
'534 Claims 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 17, and 18	"carrier"
'534 Claims 1, 6, 16	"orthogonal frequency sub-carriers"
'534 Claims 4, 7	"maximal number of sub-carriers"

'534 Claims 1, 2, 16	"as a function of"
'534 Claims 1, 6, 13, 15, 16, and 17	"transmitter"
'534 Claims 1, 6, 13, 15, 16, and 17	"receiver"
'534 Claim 5	"calculated at said receiver"
'534 Claim 6	"radio link"
'534 Claim 8	"signal-to-interference ratio"
'534 Claim 8	"bit error rate"
'534 Claims 1, 2, 3, 5, 6, 7, 8, 9, 13, 16, and 17	"quality level"
'929 Claims 1, 3, 8, 10, and 15	"handoff" / "determining if a handoff is desired"
'929 Claims 1, 2, 3, 6, 7, 8, 10, 12, 13, and 15	"mobile station"
'929 Claims 1, 2, 3, 4, 6, 9, 11, 13, and 15	"base station"
'929 Claims 1, 6, and 11	"serving base station"
'929 Claims 1, 2, 3, 4, 6, 9, 11, and 13	"target base station"
'929 Claims 1, 2, 3, 4, 6, 9, 11, and 13	"link" / "establishing a new link" / "existing link" / "initiating a new link" / "releasing the existing link"
'929 Claim 1	"communicating"
'929 Claim 1	"achieving uplink synchronization"

'929 Claim 1	"processed the transmitted active set update message"
'929 Claims 4, 5, 6, 7, and 13	"physical layer" / "physical layer control information"
'929 Claim 8	"measurement reports"
'929 Claim 11	"buffering bearer traffic"
'929 Claim 14	"characteristic"
'929 Claim 14	"replacement hysteresis"
'232 Claims 1, 14	"flow control"
'232 Claims 1, 14	"flow of data packets"
'232 Claims 1, 14	"transmission over a link"
'232 Claims 1, 14	"backpressure signal"
'232 Claims 1, 14	"period of congestion"
'232 Claims 1, 14	"weighting factor"
'232 Claims 1, 14	"indicates"
'232 Claims 1, 14	"the traffic flow control system"
'232 Claims 1, 14	"rate limiting"
'232 Claims 1, 14	"content of the backpressure signal"

'036 Claims 1, 6-10, 12, 17-21, 23, 24	“data flow” / “to enable thereby the control of at least one data flow” / “data flow is controlled” / “a data flow” / “the data flow”
'036 Claims 1, 3, 12, 14, 23, 24	“network” / “network node in the network” / “network node” / “one or more network nodes upstream of the congestion condition”
'036 Claims 1, 12, 23, 24	“congestion condition” / “indication that a congestion condition exists”
'036 Claims 1, 12, 23, 24	“in a manner tending to reduce the congestion condition” / “the congestion may be reduced”
'036 Claims 1, 12, 23, 24	“queue” / “queue maximum occupancy is exceeded” / “queue maximum occupancy”
'036 Claims 4, 15	“queue data drop rate”
'036 Claims 3, 14	“output link capability”
'036 Claims 1, 5, 6-9, 12, 16, 18-20, 23, 24	“data drop” / “data dropped” / “an amount of data dropped” / “a number of data drops over time” / “dropping”
'036 Claims 7, 8, 9, 18, 19, 20	“those packets associated with the destination address” / “those packets associated with only the destination address” / “those packets associated with the source and destination addresses”
'036 Claims 9, 20	“the source address end-node being unknown”
'036 Claims 1, 12, 23, 24	“end-node associated with the congestion condition”
'036 Claims 11, 22	“an indication of an inability to drop packets”
'036 Claims 12, 17, 24	“the MAC address pair” / “the MAC address”
'036 Claims 10, 11, 21, 22	“in accordance with a Service Level Agreement” / “a Service Level Agreement”

'240 Claims 1, 6, 13	“unattended connectivity verification jobs”
'240 Claims 1, 6, 13	“verifying connectivity in the network relating to at least Layer-2 and Layer-3 objects”
'240 Claims 1, 6, 13	“a given containment hierarchy”
'240 Claims 1, 6	“the performing generates”
'240 Claims 1, 6, 13	“the comparison shows that at least one of the connectivity verification results has reached the specified connectivity verification threshold”
'240 Claims 1, 6, 13	“the containment hierarchy affected by the connectivity verification result”
'240 Claim 3	“the connectivity verification application further provides a display of the connectivity verification results”
'240 Claim 4	“alarm information”
'240 Claim 5	“raise the alarm”
'240 Claim 7	“a pair of source and destination IP objects”
'240 Claims 1, 4, 6, 13, 15	“display” / “displaying”
'240 Claim 16	“one of an OSI Layer 2 and an OSI Layer 3 object”
'240 Claim 16	“OSI Layer 3 object”
'240 Claim 16	“OSI Layer 2”
'240 Claims 1, 6, 13	“connectivity verification threshold”

'240 Claims 1, 6, 13	"Layer-2 objects"
'240 Claims 1, 6, 13	"Layer-3 objects"
'240 Claims 1, 6, 13	"identify Layer-2 and Layer-3 objects within the containment hierarchy"
'240 Claims 1, 6, 13	"defining"
'240 Claims 1, 6	"a connectivity verification job"
'240 Claim 10	"at least one round of trip delay, jitter, and packet loss"
'240 Claims 11, 18	"ping commands"
'240 Claim 11	"a ping packet size, a ping data fill pattern, a time to wait for response, and a type of service"
'240 Claims 2, 13, 17, 18	"performs scheduled connectivity verification" / "performing scheduled connectivity verification" / "performing the scheduled connectivity verification process"
'240 Claims 1, 6, 13	"the connectivity verification result[s] associated with the alarm"
'240 Claim 4	"selected connectivity verification results"
'240 Claims 1, 6, 10, 13	"user-input specification"
'240 Claim 17	"connectivity verification tests"
'240 Claim 18	"issuing"
'240 Claim 5	"connectivity profile" / "a deviation from the connectivity profile" / "the results of each connectivity verification job are compared against a connectivity profile"

'240 Claim 11	"a group comprising at least one number of ping commands to issue"
'240 Claim 12	"a group comprising at least one of a number of traceroute commands to issue"
'839 Claims 1, 6, 11	"the communication network"
'839 Claims 2, 4, 7, 9, 11, 12	"said access device"
'839 Claims 1, 6, 11	"server"
'839 Claims 1, 3, 6, 8, 11	"route" / "route-related information"
'839 Claims 1, 6, 11	"using time"
'839 Claims 1, 6	"route table" / "update[ing] a route table item in a route table"
'839 Claims 2, 7	"Layer 2 access device" / "wherein said access device is a Layer 2 access device"
'839 Claims 4, 9	"said virtual local area network configuration is employed between said access device and each marginal routers connected with said access device"
'839 Claims 5, 10	"said virtual local area network configuration"
'839 Claims 5, 10	"said access response message refers to a dynamic host configuration protocol message" / "said access response message refers to a dynamic host configuration protocol"
'839 Claim 10	"said dynamic host configuration protocol response message"
'839 Claim 8	"a first judge" / "a second judger" / "judge"
'839 Claim 12	"a digital subscriber line-access multiplexer"

'839 Claim 9	"marginal routers"
'839 Claim 3	"a route table item"
'839 Claim 4	"an access response message"
'839 Claims 5, 10	"the least time"
'839 Claims 1, 6	"said predefined using time indicates[ing] a [the] using time of said route"
'839 Claims 4, 9	"correlated information"
'060 Claims 1 and 10	"frequency domain component feature of the feature vector"
'060 Claims 1 and 10	"extracting a feature vector"
'060 Claims 1 and 10	"time domain component feature of the feature vector"
'060 Claims 1 and 10	"the level value is attenuated"
'060 Claims 1 and 10	"approaches an estimate"
'060 Claims 1 and 10	"spectral shape parameter"
'905 Claims 1, 6, 12, 18, 25, and 26	"transmission opportunity"
'905 Claims 1, 6, 12, 18, 25, and 26	"transmission period"
'905 Claims 1, 12, 25	"determined transmission time interval"
'905 Claims 5, 15	"during a time interval between data transmission intervals during the transmission period"

'905 Claims 1, 12, 25	"determining to utilize a bandwidth greater than that of the first frequency band during the transmission period"
'905 Claims 1, 6, 12, 18, 25, 26	"indicates that said at least one additional frequency band is available"
'905 Claims 1, 12, 25	"increasing a transmission band to comprise both said first frequency band and said at least one additional frequency band"
'905 Claims 3, 14	"causing transmission of data only on the first frequency band until the reservation response message is received"
'905 Claims 5, 16	"at least one frequency channel indicator"
'905 Claims 6, 18, 26	"at least one additional frequency band"
'905 Claims 6, 18, 26	"monitoring for availability"
'905 Claims 7, 19	"triggering a network allocation vector setting"
'905 Claims 8 and 20	"clear-to-send message"
'905 Claims 9, 21	"causing the transmission of the reservation message on each frequency band separately"
'905 Claims 10, 22	"transmission parameters"
'905 Claims 11, 23	"timing and transmission frequency"
'905 Claims 17, 24	"radio medium"
'960 Claims 1, 2, 3, 9, 10, 15, 16, 17, 23, and 24	"virtual reference"
'960 Claims 1, 9, 15, 23	"an original video signal"

'960 Claims 1, 9, 15, 23	"video frames"
'960 Claims 1, 9, 15, 23	"subsequent video display"
'960 Claims 1, 9, 15, 23	"does not represent any portion of any individual frame of the original video signal"
'960 Claims 1, 15	"incorporating" / "incorporating said encoded virtual reference data" / "incorporating into the encoded video signal an indication" / "incorporating said encoded portions of said original video signal"
'960 Claims 2, 10, 15, 16, 24	"block-based" / "block-based encoding" / "block-based motion compensated prediction scheme"
'960 Claims 3, 17	"minimize differences"
'071 Claims 1, 13	"an image to be projected"
'071 Claims 1, 13, 14	"image data signalling"
'071 Claims 1, 9, 13, 14	"movement signaling" / "receiv[ing] movement signaling associated with the movement of the projector" / "corresponding movement signalling"
'071 Claims 1, 13, 14	"one or more of displacement and movement speed of the projector"
'071 Claim 9	"a movement sensor configured to detect movement of the apparatus and/or a projector"
'071 Claims 1, 13, 14	"discriminate" / "discriminate a movement criterion" / "the processor is configured to discriminate a movement criterion"
'071 Claims 1, 13, 14	"provide associated image data signalling to project associated image data"

'071 Claims 1, 9, 13, 14	"the processor" / "wherein the processor is configured"
'071 Claims 1, 9, 10, 13,	"a projector" / "the projector"
'071 Claims 1, 13, 14	"indication" / "an indication of one or more movement criterion of the projector"
'071 Claim 10	"the apparatus is a projector, or the apparatus comprises a projector"

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record, who are deemed to have consented to electronic service, are being served on January 22, 2021 with a copy of this document via email.

/s/Lionel M. Lavenue

Lionel M. Lavenue